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LEAD on the JOB

A Guide for Employees

MASSACHUSETTS DEPARTMENT OF
LABOR AND INDUSTRIES

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INTRODUCTION

Lead poisoning has been a serious health concern for centuries. Even though much is known about lead and how it can affect your health, lead poisoning is still very common today.

Lead is used in batteries, car radiators, plumbing and paints, bullets, pottery, and in many other products. Workers in approximately 120 occupations use lead. However, lead can cause severe health problems unless it is handled properly.

HOW DOES LEAD AFFECT THE BODY?

Workers can be exposed to lead by breathing in lead dust from work activities, by eating, drinking or smoking in work areas, or by handling contaminated objects - and accidentally swallowing lead dust. Workers in many workplaces have so much lead in their bodies that they are slowly being poisoned. The symptoms may hardly be noticeable at first. But over time, lead can damage the brain, blood, nerves, kidneys and reproductive organs. This damage can cause serious disability: memory loss, extreme tiredness, emotional problems, even kidney failure, coma or death.

Young children are especially affected by lead. Lead dust can collect on work clothes during the day. When those clothes are worn home, the lead can contaminate workers' cars and homes. Young children can then be poisoned by the lead-contaminated dust.

HOW DO I KNOW IF I HAVE TOO MUCH LEAD IN MY BODY?

Lead poisoning can occur when people are exposed to large or small amounts of lead over time. Lead builds up in the body and may cause temporary or permanent damage. A blood lead test can show whether your body has absorbed a dangerous amount of lead. A high blood lead level is an indication that lead is building up in the body faster than it can be eliminated.

WHAT ARE THE SIGNS OF LEAD POISONING?

There are many symptoms or signs that suggest a problem with lead, but they can also be symptoms of other illnesses. It is also possible to have lead poisoning without noticing any symptoms. If you work around lead you should regularly see your doctor, whether or not you are experiencing the following symptoms:

Early Signs and Symptoms of Lead Intoxication

- Fatigue
- Uneasy stomach
- Irritability or nervousness
- Poor appetite
- Headache
- Sleeplessness
- Metallic taste
- Reproductive problems

Later Signs and Symptoms

- Aches or pains in stomach
- Constipation
- Nausea
- Weight loss
- Memory problems
- Muscle and joint pains
- Weak wrists or ankles
- Kidney problems

HEALTH EFFECTS OF LEAD IN ADULTS

Health Effect	Blood Lead Level* (mcg/dl)
Severe brain damage (encephalopathy)	100
Headaches, memory and concentration problems, sleep disturbances, mood changes	60-70
Anemia	60
Stomach pain, constipation, diarrhea, loss of appetite	50-70
Nerve disorders; decreased red blood cells	50
Male reproductive problems; kidney damage	40
Slower reflexes	30
Increase in blood pressure (white males)	10-15
Harmful effects on the fetus	

* lowest blood lead level at which an effect has been found

Extreme cases of lead poisoning can result in convulsions, coma or death.

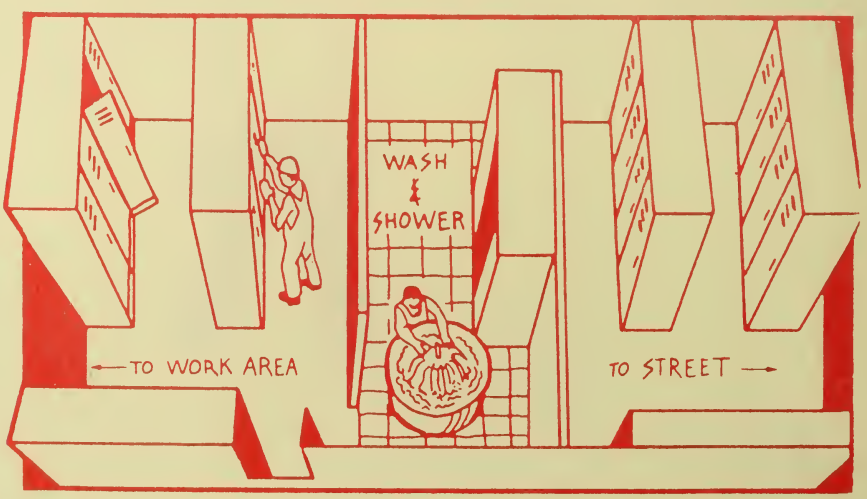
It is important to emphasize, however, that lead may be causing injury to the body even when none of these signs and symptoms are present. (See Table on health effects of lead.)

WHAT IS THE OSHA LEAD STANDARD?

29 CFR 1910.1025 Occupational Safety and Health Administration (OSHA) - covers general industry only, not construction or agriculture

NOTE: WHILE THE OSHA LEAD STANDARD DOES NOT LEGALLY APPLY TO CONSTRUCTION, ALL WORKERS EXPOSED TO LEAD SHOULD HAVE THE SAME OR SIMILAR PROTECTION.

The Lead Standard, written by OSHA, requires employers to do a number of things to make certain the workplace is safe. No employee should be exposed to lead at or above 50 micrograms per cubic meter of air (mcg/m^3), the OSHA Permissible Exposure Limit (PEL). Clean showers, change rooms and lunchrooms must be provided and used. The Standard also requires air sampling for lead exposures, methods for reducing lead in the workplace, medical testing of employees to determine whether their bodies are taking in too much lead, and paid removal from the job in cases of lead poisoning.



The requirements of the Lead Standard are based on airborne levels of lead in the workplace. It should be remembered, however, that swallowing lead dust can also cause a problem. Therefore, keeping the workplace clean is very important.

WHAT ARE MY RIGHTS UNDER THE OSHA LEAD STANDARD?

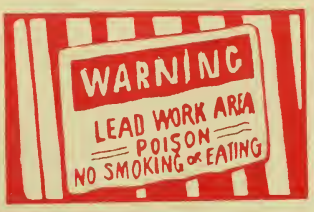
The Lead Standard gives you, as a worker exposed to lead, several rights provided by your employer. The requirements of the Lead Standard depend on how much lead is in the workplace air.

1. To find out if there is a lead problem your employer must test the air for lead in each work area, during each shift and in each job classification.

2. If monitoring (air sampling) shows lead above 30 mcg/m^3 (OSHA "Action Limit"), but below 50 mcg/m^3, your employer is required to do the following:

   a. Training

      You have the right to be informed that you are working with lead, as well as any other hazardous materials. Training is required, once a year, in the correct handling of lead products, in the manner in which lead affects your health, in ways to protect yourself from lead exposure and in the details of the OSHA Lead Standard.



b. Air Monitoring

Monitoring for airborne concentrations of lead is required every 6 months. You have the right to observe this monitoring, and to receive the results in writing. The permissible exposure limit set by OSHA is 50 mcg/m^3, averaged over an eight-hour work day.

c. Medical Examinations

You have the right to a medical exam, paid by your employer, before you begin work that exposes you to lead. Medical exams are also to be provided if you have symptoms of lead poisoning, elevated blood lead levels, difficulty in using a respirator, questions concerning the reproductive hazards of lead; or if you are on medical removal protection.

d. Biological Monitoring

You have the right to have your blood tested for lead and, paid by your employer, to determine if your body is taking in too much lead, and the results must be given to you in writing. This monitoring is to be repeated at intervals specified in the OSHA Lead Standard.

e. Medical Removal

You have the right to be removed from lead

exposure if your blood lead level reaches or exceeds 60 micrograms per 100 milliliters of whole blood (mcg/dl), or if an average of the last three blood lead levels is at or above 50 mcg/dl. Medical removal continues until two blood lead levels in a row are below 40 mcg/dl. You may also be removed from lead exposure if you have a medical condition that could be worsened by exposure to lead. During your medical removal, your employer must pay you your regular earnings, and keep your seniority and other employment rights and benefits as though your work had not been changed. Medical removal can be continued for 18 months.

3. If monitoring shows lead above 50 mcg/m^3, your employer is also required to do the following:

   a. Repeat Air Monitoring Every 3 Months

   b. Showers and Change Rooms

      Your employer must provide clean showers, changing rooms and separate storage for street clothes and soiled work clothes.

   c. Lunch Rooms

      Your employer must provide a lunchroom separate from the work area, and facilities for washing.

   d. Ventilation

      Your employer must install local exhaust ventilation or other engineering or work practice measures to limit your exposure so that it does not exceed the PEL.

   e. Respiratory Protection and Protective Equipment

      Your employer must provide you with

appropriate respirators (disposable paper masks are not acceptable) and training in their use, until the PEL can be reached using ventilation or work practice controls. You must also be given protective clothing and equipment, including coveralls, gloves, goggles and shoes.

WHAT STEPS CAN I TAKE TO PROTECT MYSELF?

Use the ventilation systems that are provided for your protection. Be aware of how these systems work, and whether they are working correctly.

Use the correct respirator. Your employer must provide the appropriate respirator for the job, and must have have a program for cleaning respirators and making sure that they are in good repair and fit properly.

Keep your work area clean. Do not use compressed air to remove lead dust. Your employer should provide a vacuum with a high efficiency (HEPA) filter or use a wet cleaning method.

Do not eat, drink or smoke in work areas. Your employer must provide a separate area free of lead dust.

Always wash your hands and face before eating, drinking or smoking.

Shower, wash your hair and change into clean clothes, including shoes, before leaving the workplace. Lead dust on your clothes can contaminate your home and harm your children.

Store street clothes in a separate locker from your work clothes.

Eat a well-balanced diet. Fasting can increase your body's lead level. Proper nutrition can help reduce lead levels.

For further assistance or information about the lead registry, please call or write:

Occupational Lead Registry
Division of Occupational Hygiene
Department of Labor and Industries
1001 Watertown Street
West Newton, MA 02165
(617) 969-7177

To obtain a copy of the OSHA Lead Standard (29 CFR 1910.1025) contact the nearest OSHA area office:

Occupational Safety and Health Administration
639 Granite Street, 4th floor
Braintree, MA 02184
(617) 565-6924

Occupational Safety and Health Administration
13 Branch Street, 1st floor
Methuen, MA 01844
(617) 565-8110

Occupational Safety and Health Administration
1145 Main St.
Springfield, MA 01103
(413) 785-0123

Contents of this brochure were adapted from the Texas Department of Health and the California Department of Health Services.